QNAP

TS-433

4-bay

2.0GHz

Home multimedia center
with a built-in NPU to boost
AI-powered face recognition

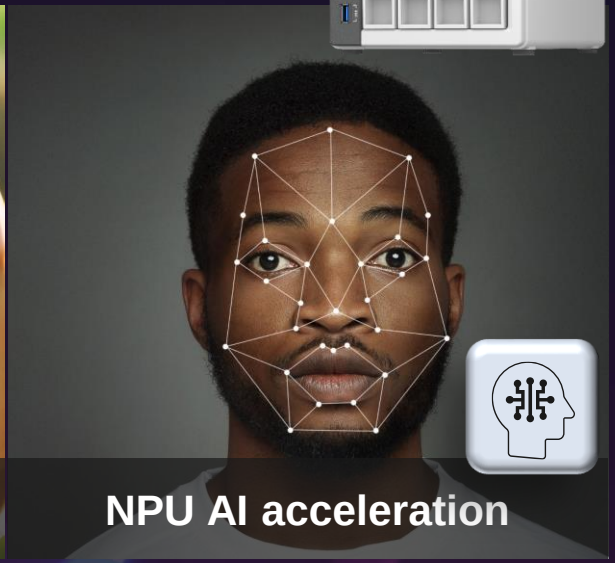
4GB
4GB Memory

64-bit Quad-Core

NPU AI acceleration

2.5GbE
+ 1GbE
Dual ethernet ports

TS-433 AI NAS main application



Collaborate and backup data for SMEs

The company's essential data should keep safe. Sufficient data space and high-speed bandwidth are necessary.

Snapshots protect precious family photos

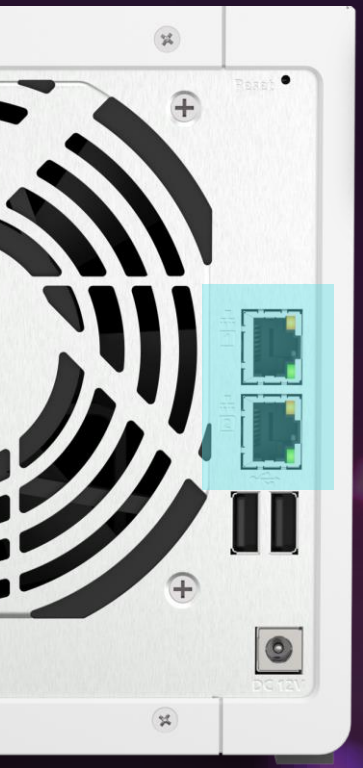
Any travel or life photo records can be backed up and quickly searched through the NAS.

NPU AI accelerates face recognition

The only NAS with built-in NPU for AI faces recognition accelerated QNAP's QuMagie photo smart album.

2.5GbE + 1GbE dual ethernet

Allows you to cross the limit of home network bandwidth



2.5GbE + 1GbE

1 x 2.5GbE 1 x 1GbE

Upgraded 1 x 2.5 GbE

Only the general 1GbE network speed can not meet the needs of today's home multimedia applications and the basic storage needs of SMEs users. Therefore, in addition to the standard 1GbE network, the TS-433 NAS has been upgraded with one 2.5GbE high-speed network for users. So that the video network streaming is smooth and unimpeded, and the data transmission is smooth and smooth.

Optional QNAP 2.5GbE Network Switch
https://www.qnap.com/zh-tw/product/series/qsw-2-5gbe-switches

Smart NPU for AI acceleration

(Neural network Processing Unit)

TS-433 build-in NPU

The TS-x33 series supports QuMagie smart album, which is six times faster than the AI face recognition of same class models, and the overall performance of QuMagie AI is improved. It can enrich your life.

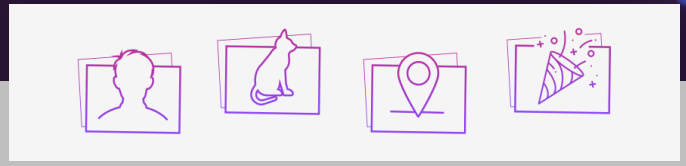
Neural network diagram

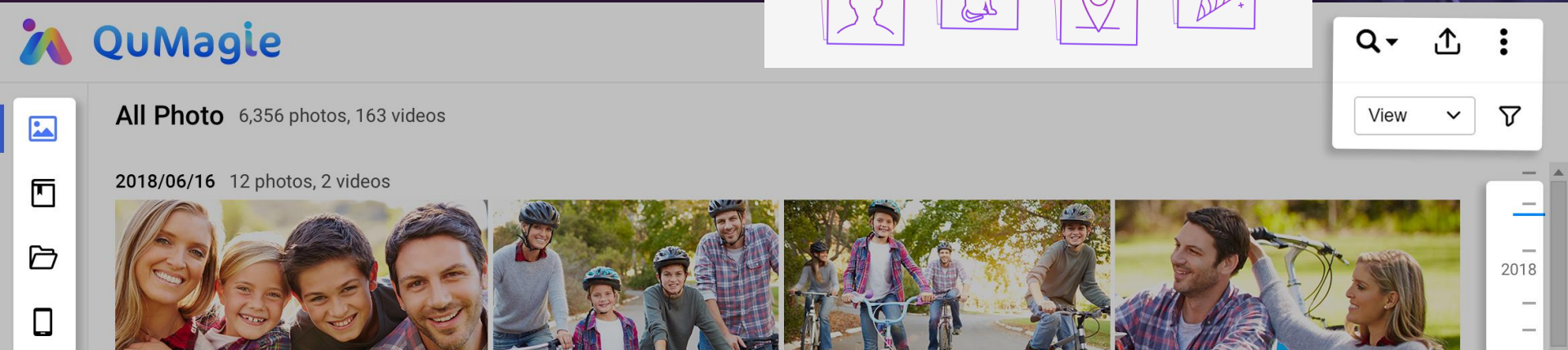
The independent neural network processor runs the image recognition by AI models, making the image classification operation faster.

QuMagie

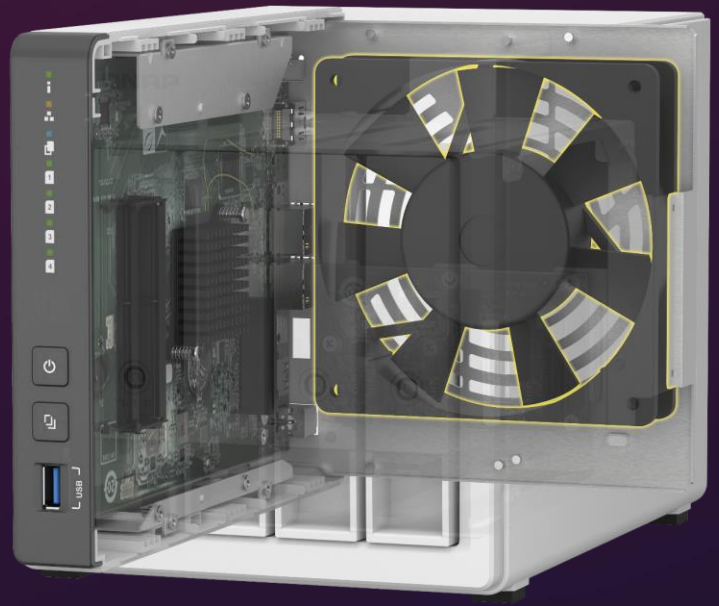
TS-433 built-in NPU AI acceleration make QuMagie more powerful

QuMagie integrates the QNAP AI Core image recognition engine, enables face and object recognition, and automatically categorizes photos in the NAS according to where the photo was taken. As a result, quickly find photos of similar people, things, places, and events in the Event Album.





Built-in 12 cm silent fan and smart adjustment



12 cm double ball bearing silent fan

In a compact 4-bay volume, The Fan design of QNAP maximizes the utilization of limited space, which can effectively achieve a good balance between heat dissipation and low noise. In addition, the double ball bearing provides 80,000 hours of the live cycle and is durable.

NAS Temperature Sensing Smart Fan Control

Automatically sense system temperature and hard disk temperature to adjust fan speed, which can effectively adapt to changes in ambient temperature and make NAS run more stably

The largest 4GB memory in the same class of NAS

TS-433 built-in 4GB large-capacity memory

The same class of 4-bay NAS in the market generally uses lower-capacity memory to save cost. QNAP for achieving the best NAS performance, TS-433 used a 4GB large-capacity memory design, making the overall NAS run more smoothly. In addition, it supports up to 256 Snapshots snapshot protection, and QVR Elite intelligent monitoring can connect 18 network cameras (free support for two cameras). However, a smoother user experience is waiting for you to discover.

QVR Elite Smart Surveillance
Free support for two camera channels (flexible expansion)

Snapshots Protection
Support up to 256 sheets

Why do NAS users need the RAID function?

Is a technology that uses more than two disks to form a fault-tolerant protection mechanism, which can protect data when a certain number of disks are damaged. We recommended using four disks to build a disk array in RAID 6 for prioritized protection or using RAID 10 is recommended for better performance. Those are good settings for TS-433.

	Single Disk	JBOD	RAID 0	RAID 1	RAID 5	RAID 6	RAID 10
Minimum of disks	1	1	2	2	3	4	4
Allow how many disk failure	0	0	0	N-1	1	2	Each pair of RAID 0 can allow 1 failure
Available capacity converted to number of disks	1	N	N	1	N-1	N-2	N/2
Protection	N/A			High	Middle and lower	Upper middle	Upper middle
Performance	Single Disk		High	Single Disk	Middle	Middle and lower	Upper middle

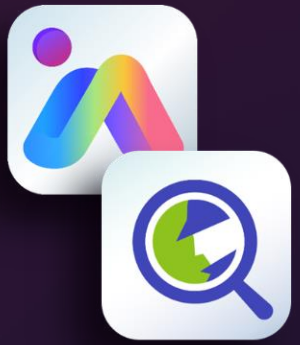
Do you have these troubles?

- Have problem saving all your photos, video, other files in one place
- Hard to find your data from Pen Drive and external devices
- Afraid of data loss
- Take a long time to organize data
- Have difficulty setting the home surveillance
- Have trouble finding an intelligent home automation solution

QNAP NAS solves your problems

Centrally manage massive storage data

supports a single SATA slot of 18TB



Unique AI Application QuMagie and Qsirch

QuMagie, Qsirch

Intelligent automated software

Qsync, Qmiix (data backup and synchronization, home automation)

Supports HBS3 to be a comprehensive backup solution

Data security protection

Strengthen information security, protect data assets
pre-installed the new QTS 5.0 NAS intelligent and secure operating system

Supports WireGuard VPN

Safe and convenient connection

AI data search and automatic file organization

Substantially improve workflow efficiency

Upgrading Linux Kernel 5.10

Strengthen information security to protect data assets

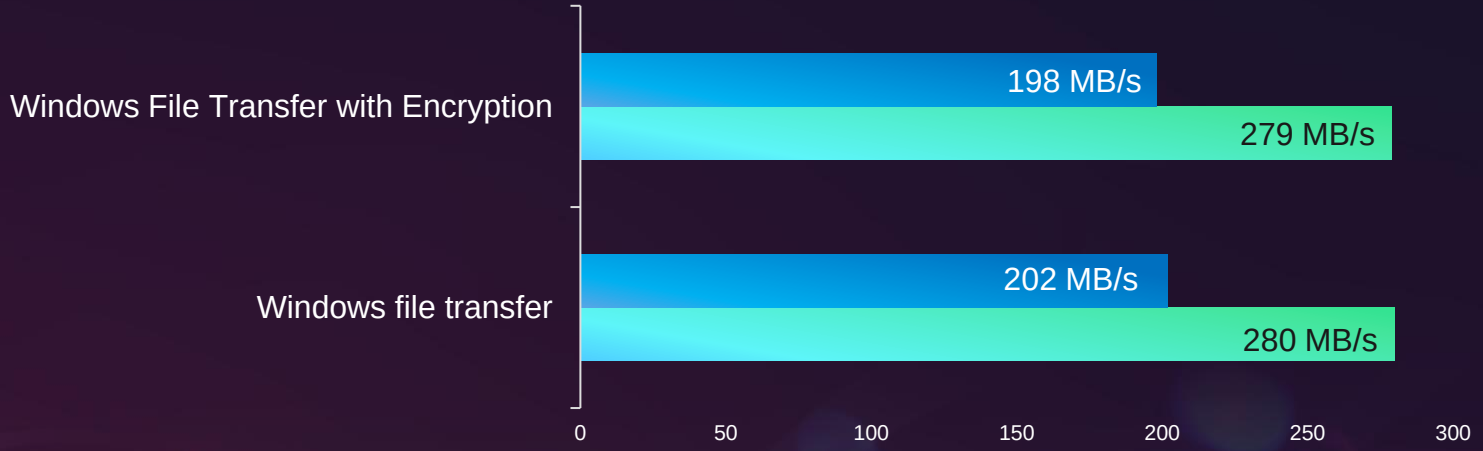
Good user experience new UI

Simple, beautiful and user friendly

App center

A wide variety of value-added applications

2.5GbE network performance test
10GB large file transfer



	Windows file transfer	Windows File Transfer with Encryption
Download	202	198
Upload	280	279

Test Environment
NAS: TS-433
OS: QTS 5.0
Volume type: Samsung SSD 850 PRO 512GB
Client PC: Windows 10, Intel Core i7-6700 CPU,3.40GHz., 64GB RAM

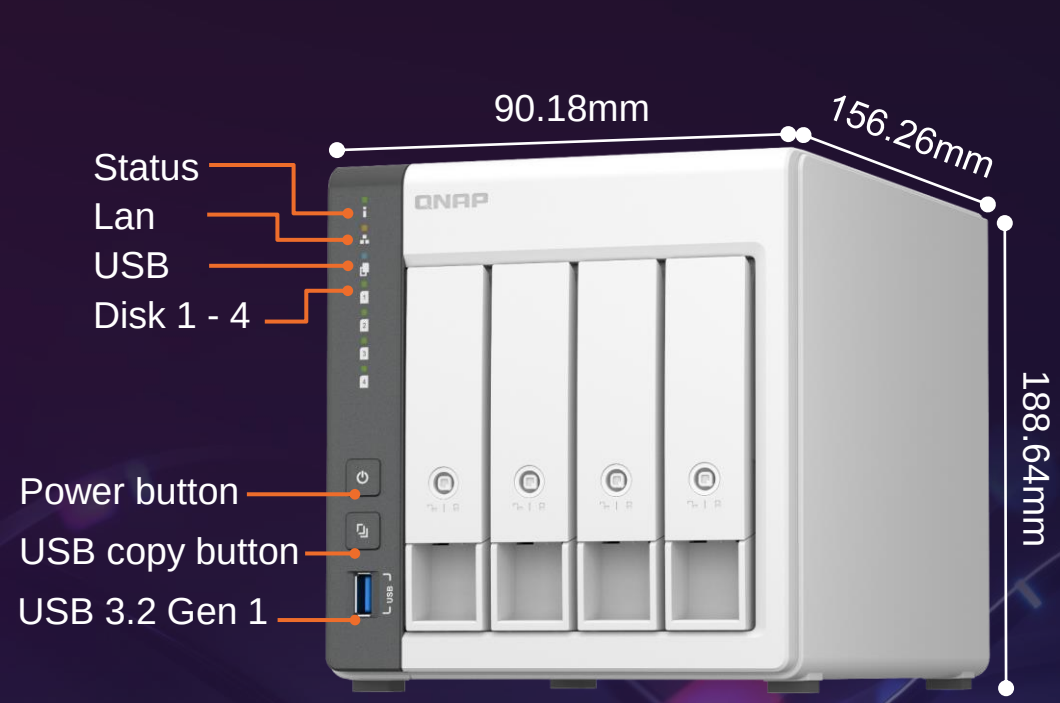
Tested in QNAP Labs.
Figures may vary by environment.

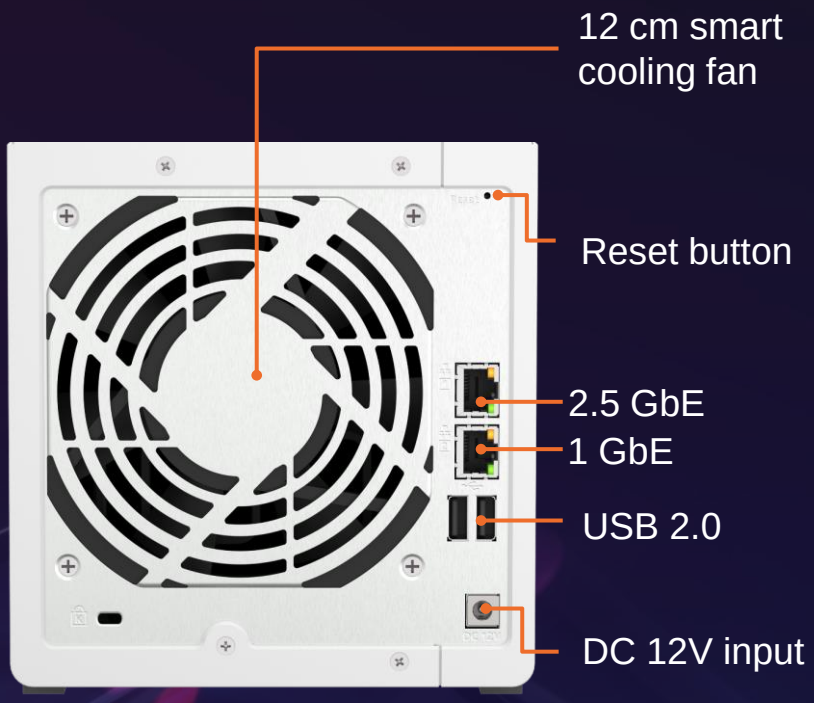
TS-433 Hardware features

* Accessories include keys for the disk tray, which can be locked to avoid the risk of accidental removal by children.

- ARM 64bit Cortex-A55 4-core 2.0GHz processor
- Build-in 4GB memory
- 1 x 2.5 GbE, 1 x 1 GbE dual ethernet
- 4 x SATA 3.5-inch or 2.5-inch disk support
- Front USB3.2 Gen1, rear 2 x USB2.0
- 12cm silent cooling fan
- Low power consumption Energy saving (standby 8.4W, operation 22.5W)

Minimalist design and size, I/O introduction





TS-x33 Hardware specification

	TS-233	TS-433 New
CPU	ARM Quad-core Cortex-A55 up to 2.0GHz	ARM Quad-core Cortex-A55 up to 2.0GHz
Memory	2GB (not expandable)	4GB (not expandable)
Disk	2 x 2.5” / 3.5” SATA	4 x 2.5” / 3.5” SATA
Disk Interface	SATA 6Gb/s	SATA 6Gb/s
Ethernet	1 x 1GbE	1 x 2.5 GbE, 1 x 1GbE
USB Port	1 x USB 3.2 Gen1 Type-A (front) 2 x USB 2.0 Type-A (rear)	1 x USB 3.2 Gen1 Type-A (front) 2 x USB 2.0 Type-A (rear)
Form Factor	Desktop	Desktop
LED Indecators	Status, LAN, USB, Disk 1-2	Status, LAN, USB, Disk 1-4
Buttons	Power, Rest, USB copy	Power, Rest, USB copy
Dimensions (HxWxD)	188.64 × 90.18 × 156.26 mm	169 × 160 × 219mm
Adapter	12V, 65W	12V, 90W
Fan	1 x 80mm	1 x 120mm

Optional expansion storage unit that supports USB JBOD & RAID

TR-002
2-bay
Desktop USB 3.2 Gen 2 JBOD
Support Hardware RAID

TR-004
4-bay
Desktop USB 3.2 Gen 2 JBOD
Support Hardware RAID

TL-R1200C-RP
12-bay
Rackmount USB 3.2 Gen 2 JBOD
Support redundant power supply

TR-004U
4-bay
Rackmount USB 3.2 Gen 1 JBOD
Support Hardware RAID

TL-D800C
8-bay
Desktop USB 3.2 Gen 2 JBOD

Optional network switch

QSW-1105-5T (Unmanaged)

5 x 2.5GbE
RJ45 Multi-Gig

Fanless and Metal Case

QSW-1108-8T (Unmanaged)

8 x 2.5GbE
RJ45 Multi-Gig

Boost 2.5GbE without replacing existing cabling

	CAT 5e	CAT 6	CAT 6A
100M	✓	✓	✓
1G	✓	✓	✓
2.5G	✓	✓	✓
5G	✓	✓	✓
10G	X	✓(55m)	✓

QSW-2104-2T (Unmanaged)
2 x 10GbE RJ45
4 x 2.5GbE RJ45

QSW-2104-2S (Unmanaged)
2 x 10GbE SFP+
4 x 2.5GbE RJ45

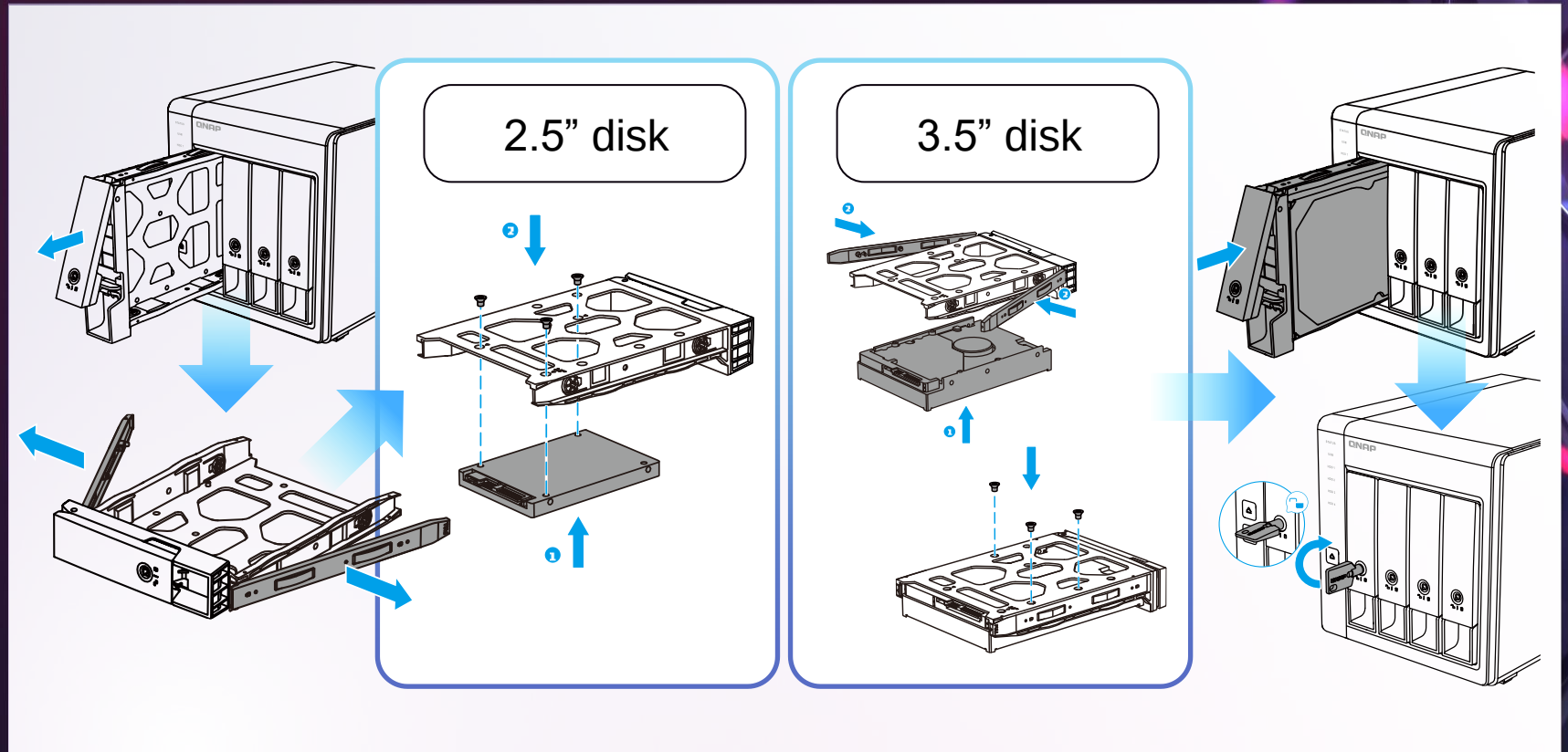
QSW-M2108-2C (Managed)
2 x 10GbE SFP+/RJ45 combo
8 x 2.5GbE RJ45

QSW-M2108R-2C (Managed)
2 x 10GbE SFP+/RJ45 combo
8 x 2.5GbE RJ45

For more options, please refer to the official website
https://www.qnap.com/zh-tw/product/series/qsw-2-5gbe-switches

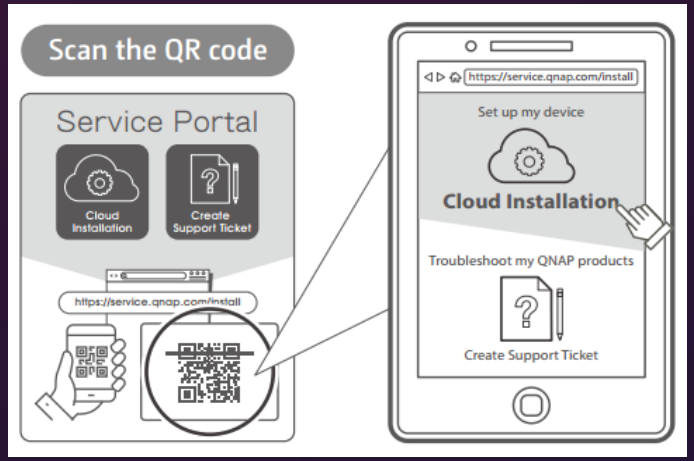
Install 2.5 / 3.5-inch disk

Users can easily install the selected 2.5" or 3.5" disk on the NAS by following this instruction



NAS quick installation

1. Scan the QR Code with your mobile phone



2. Install Qfinder Pro on the desktop or laptop, then execute the installation

LIVE DEMO

myQNAPcloud Link remote access

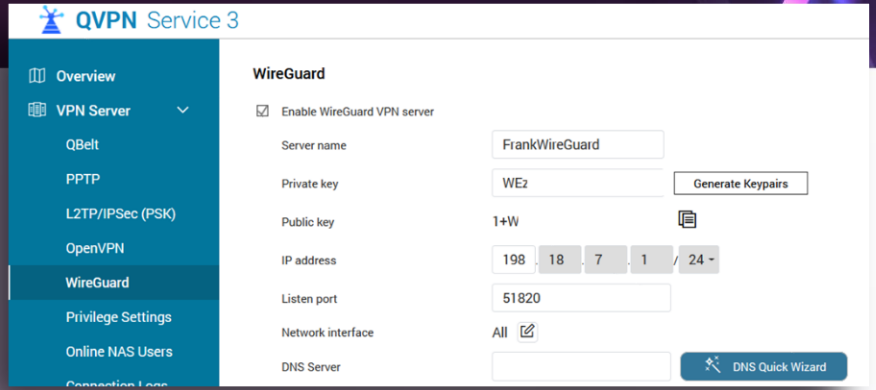
The myQNAPcloud Link app is integrated with myQNAPcloud. It provides a safe and convenient remote access service, which includes SSL certificated connection and access control, linking you to your QNAP NAS from wherever you are.

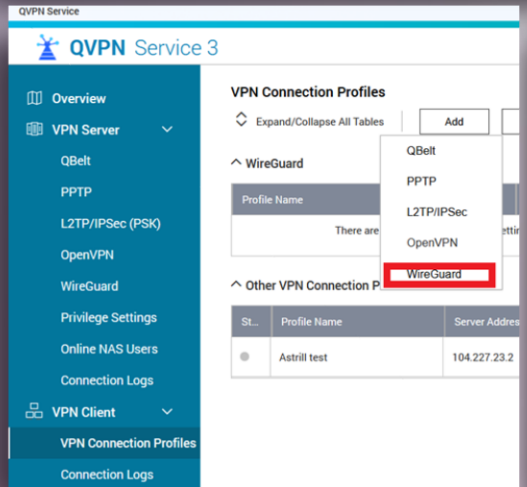
Safe connection with SSL certificate

Access control

High-speed WireGuard VPN support

- WireGuard®provides faster Point-to-Point of VPN connectivity.
- QVPN service integrated WireGuard server/client
- Compatible mobile devices which install Wireguard enjoy high-speed VPN transmission.





HBS3 set by three steps for a backup strategy

Simple completed 3-2-1 backup strategy and recovery plan 3 copies、2 media type、1 remote backup

Government-level backup 3-2-1 strategy

Refer to the United States Computer Emergency Readiness Team (US-CERT) strategy. Backup 3-2-1 principle, users can use this setting to achieve data security at the level of government units.

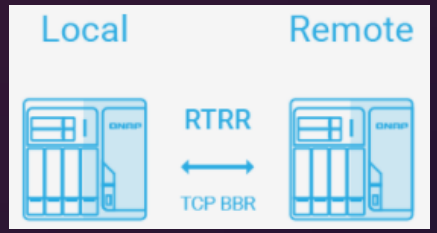
US-CERT
UNITED STATES COMPUTER EMERGENCY READINESS TEAM

https://www.cisa.gov/uscert/sites/default/files/publications/data_backup_options.pdf

HBS3 Diversified Communication Protocol Backup and Data Synchronization

Multi-cloud

data backup and synchronization for NAS private cloud and public cloud



Remote backup and synchronization

remote backup and sync by RTRR

Data recovery

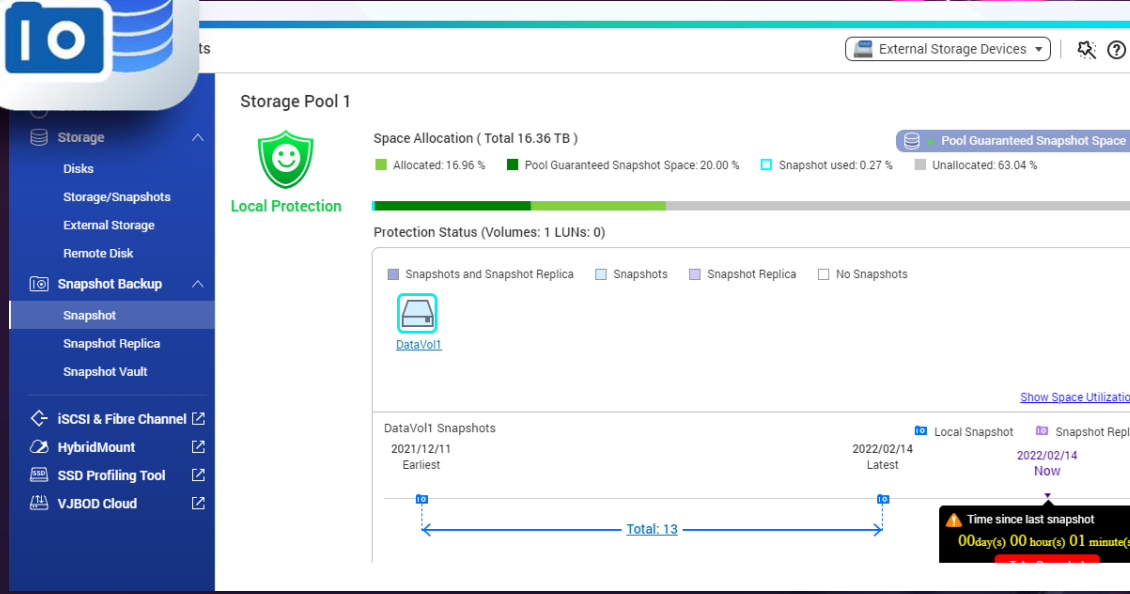
data protection and recovery

	Backup	One-way Sync	Active Sync	Two-way Sync
Local NAS	supported	supported	supported	-
Remote QNAP NAS (RTRR)	supported	supported	-	supported
Rsync Server	-	supported	-	-
FTP Server	-	supported	supported	-
CIFS/SMB Server	-	supported	supported	-
Cloud Services	supported	supported	supported	supported

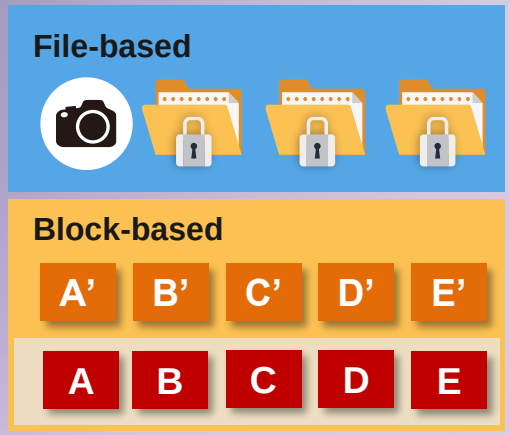
Snapshots for fast and flexible data protection

Perfect instant snapshot backup

QNAP NAS supports the Snapshot function, just like taking a photo, which can record the system status and data as a backup for future restoration, and uses less storage space than traditional backups. For example, when NAS data is damaged or the computer is threatened by encrypted ransomware, snapshot files can be used to quickly restore, ensuring that important data is safe without loss.



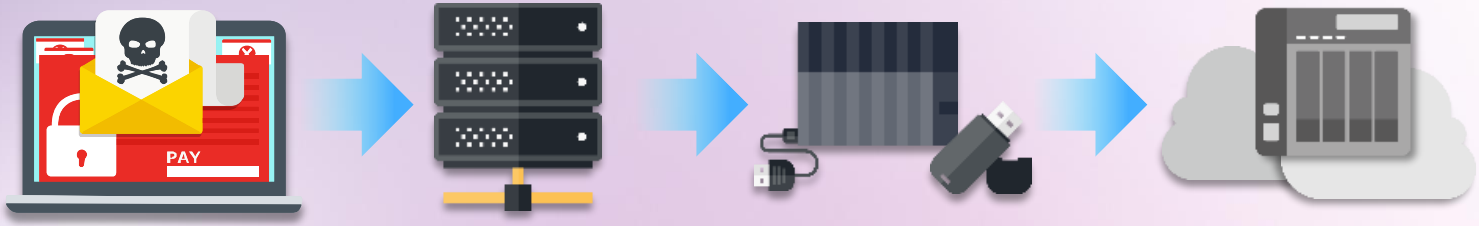
Up to 256 snapshot data backups



1. Full support for volumes (and file-level LUNs) on storage pools and block-level LUNs.
2. Easy way to capture, manage and restore snapshots.
3. Develop "off-disk" snapshots with the stable EXT4 file system on the market.

RAM size	The entire NAS supports the maximum number of snapshots	Per Volume/LUN supports the maximum number of snapshots
4GB	**256**	**64**

* Ransomware that invades through the user's computer or an external device cannot overwrite the snapshot.



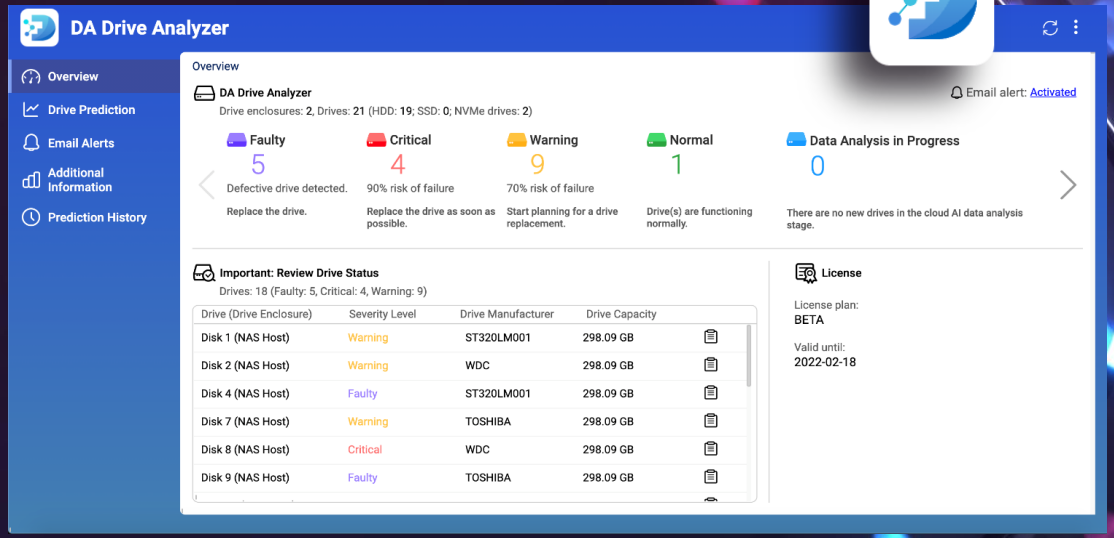
DA Drive Analyzer for disk failure prediction

Accurate failure prediction through AI-driven disk diagnostics

DA Drive Analyzer integrates the cloud-based artificial intelligence technology of ULINK, a leading manufacturer of disk testing tools. By analyzing millions of disk data in the past, it can issue a warning notification when the disk is about to fail, allowing you to replace the disk in time. In addition, through its friendly user interface, you can check the disk health, including S.M.A.R.T. properties, temperature, and test IOPS. You can also view advanced disk-related information on the ULINK DA Portal website. With DA Drive Analyzer, unannounced disk failures will never happen again.

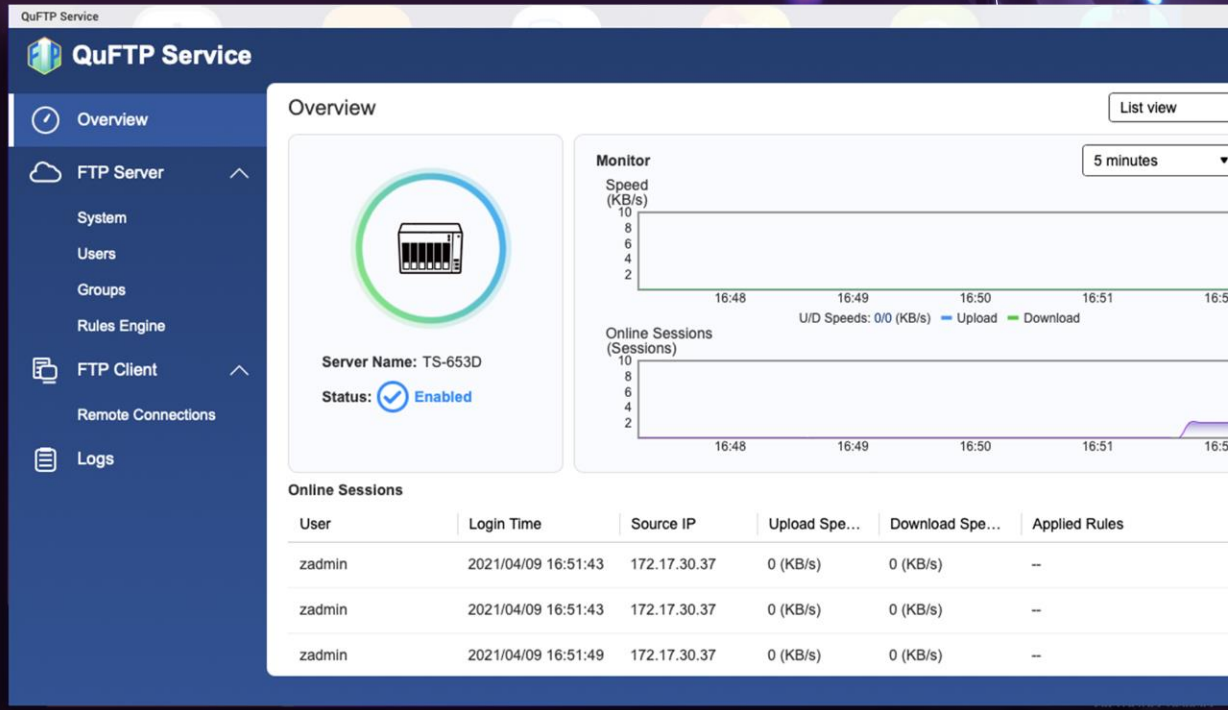
Note: DA Drive Analyzer does not yet support NVMe SSD, and some SATA hard drives may be displayed as "Not Supported" after being analyzed by the Cloud AI inference system due to different firmware or manufacturer settings

Each NAS can support one disk prediction for free, and you can also have a paid subscription to support all disks.



QuFTP remote file FTP access service

- Can be updated independently
- Supports FTP server
- Supports TLS settings
- Supports QoS settings
- Support specification setting
- Supports FTP client



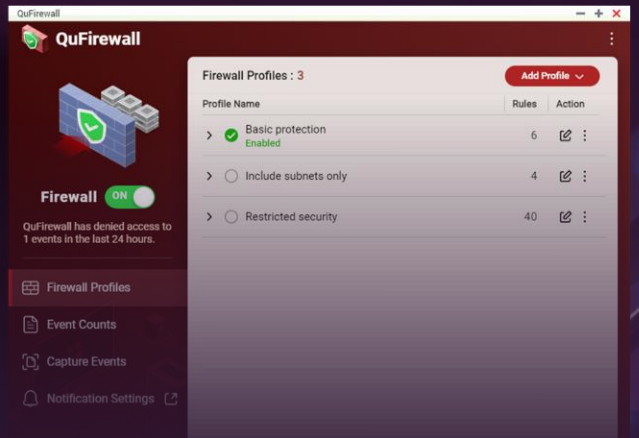
Data security: safeguard your NAS data

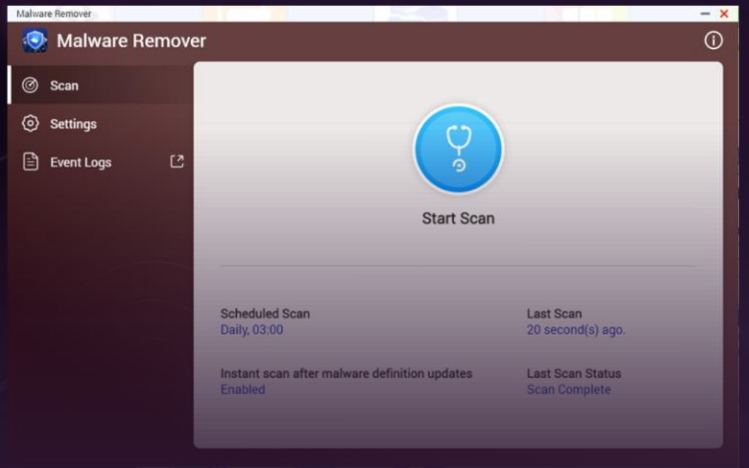
QuFirewall

You can allow/deny IP addresses and regions to prevent unauthorized access and brute force attacks for safeguarding data and service security.

Malware Remover

Regularly scan your NAS check for and download the latest malware definitions. Then, when attacked, the infected files can be excluded in real-time, helping to improve the level of NAS data security.





Qfile put massive files into your pocket

All-in-one App

Local NAS files, Cloud services mount, Remote NAS files, External devices

Share files

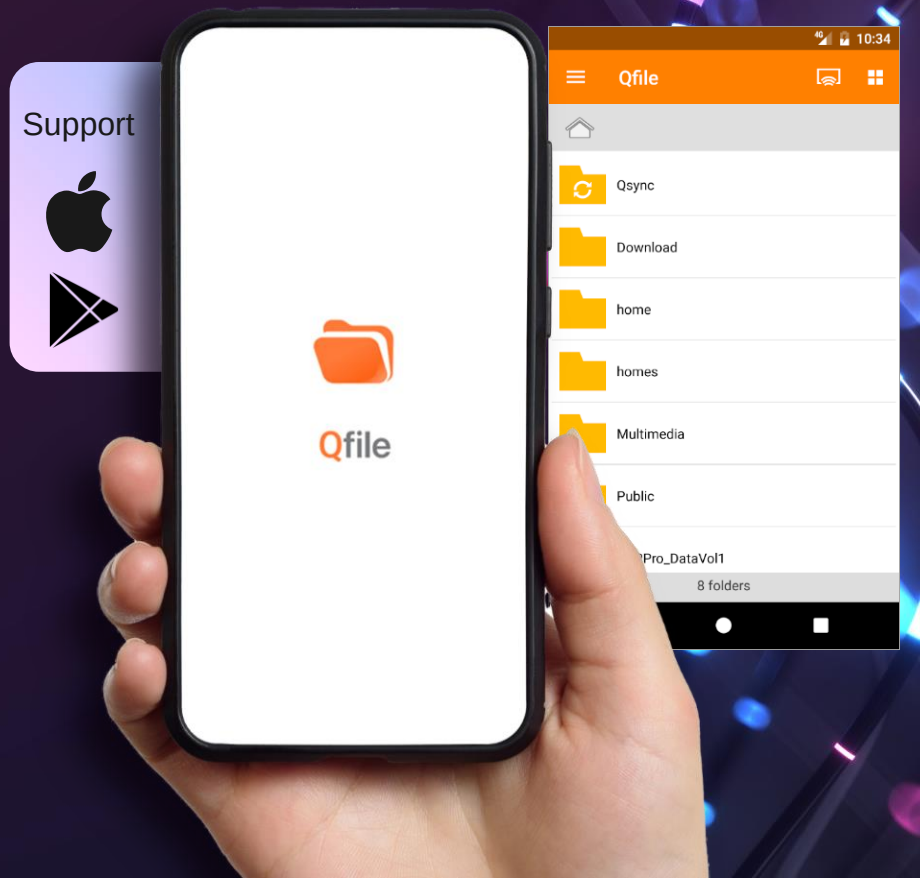
Easily share files to others.

Auto upload

Real-time auto upload flies in mobile device in the background.

Advanced Security

Support 2-step authentication and passcode.



Qsirch full-text search tool for browsers

Just like Google™ supports real-time search of NAS files on various devices

Qsirch is a full-text search engine dedicated to QNAP NAS, allowing you to find the files you need by file name, content, and metadata.

Full-text search + AI search + Multiple filters =

- Specify a path, enter keywords for advanced search
- With powerful filters, you can search without keywords
- Search, preview, and share in one go
- Four search portals can be searched anywhere

Qfiling auto archive and filing

Qfiling automates your file organization. All you need to do is categorize your files, set a schedule, and Qfiling will do the rest. It's easy, smart, and efficient !

Flexible

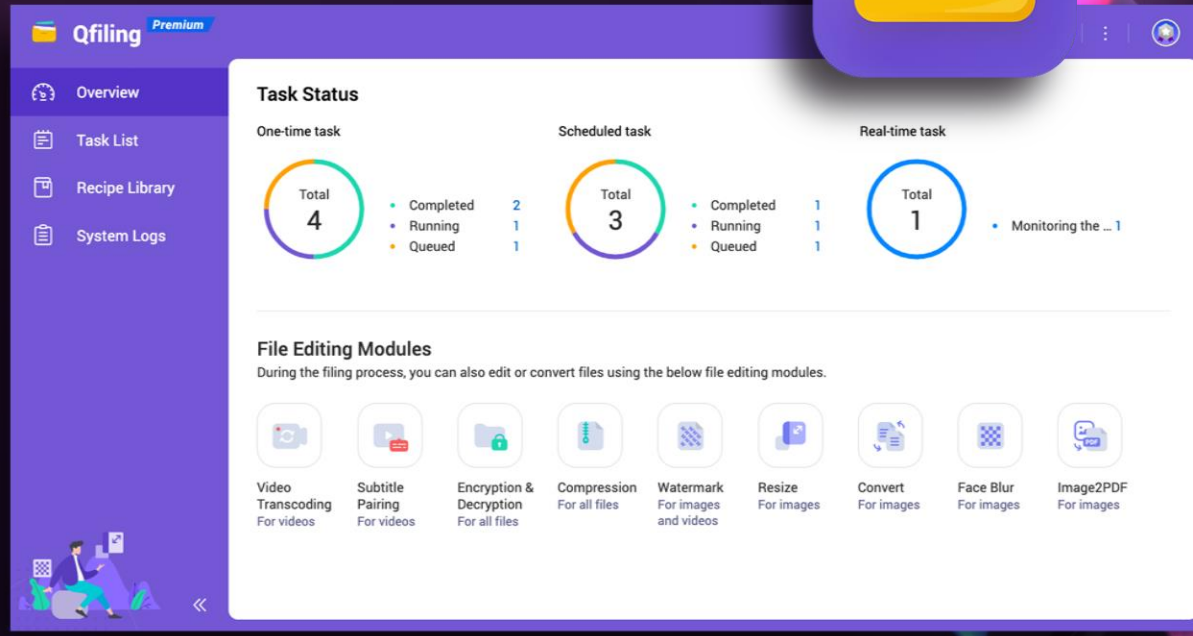
Customize the filing and batch editing rules.

Efficient

Scheduling for auto filing.

Total Control

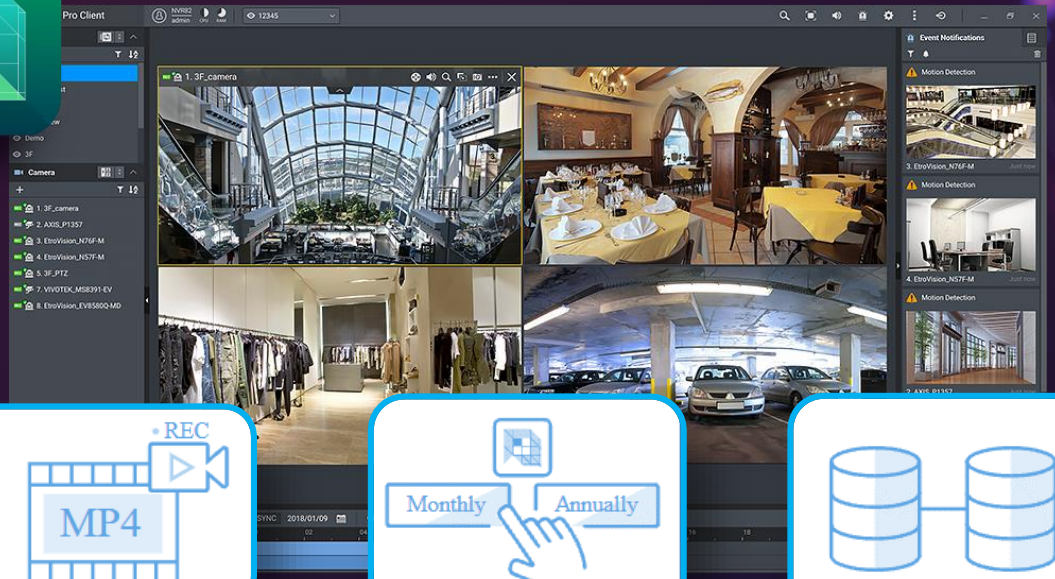
With system logs, filing status is easily accessible.



QVR Elite Smart Surveillance System

Free support for 2 channels

(Flexible expansion)



Record using the MP4 Format

Flexible Subscription

Expandable Capacity

Compatible with a huge amount of camera models

Over 180 Brands

GeoVision
VIVOTEK BUILT WITH RELIABILITY
Panasonic
AXIS COMMUNICATIONS
MOBOTIX
Canon
HIKVISION
alhua TECHNOLOGY
Honeywell
Brickcom

Over 6,700 Models

ONVIF Profile Supported

ONVIF® | S

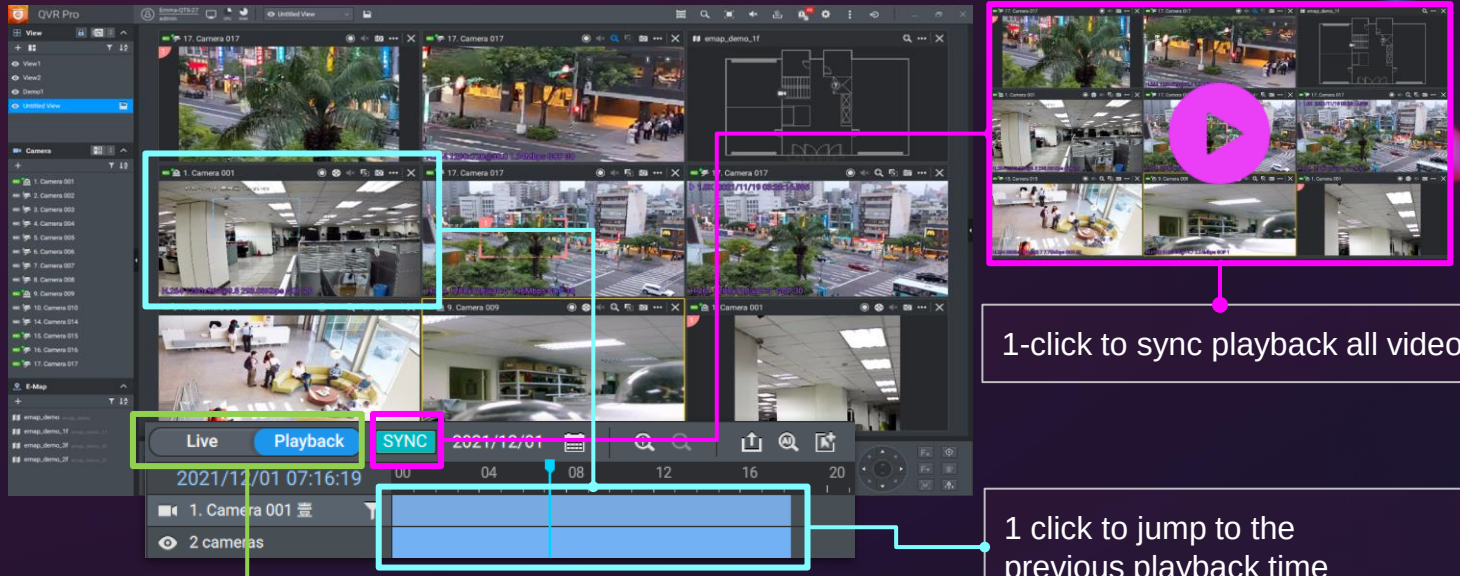
RTSP Stream
Input / Output

RTMP Stream
Input

https://www.qnap.com/en/compatibility-qvr-pro

Unified interface for live view & playback, anywhere with a PC or mobile device

Monitor the live view of multiple channels and playback on 1 single interface.



1-click to sync playback all video views

1 click to jump to the previous playback time

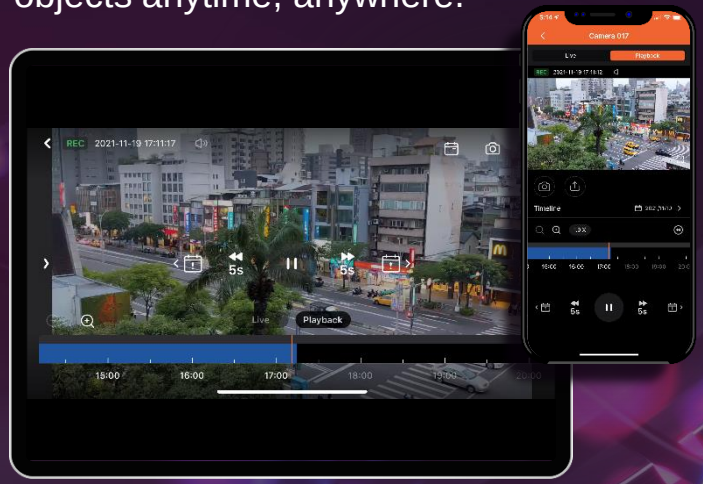
1 click to switch between Live & Playback

Surveillance Client for mobile and home environment

QVR Pro Client

Cross-device recording and playback

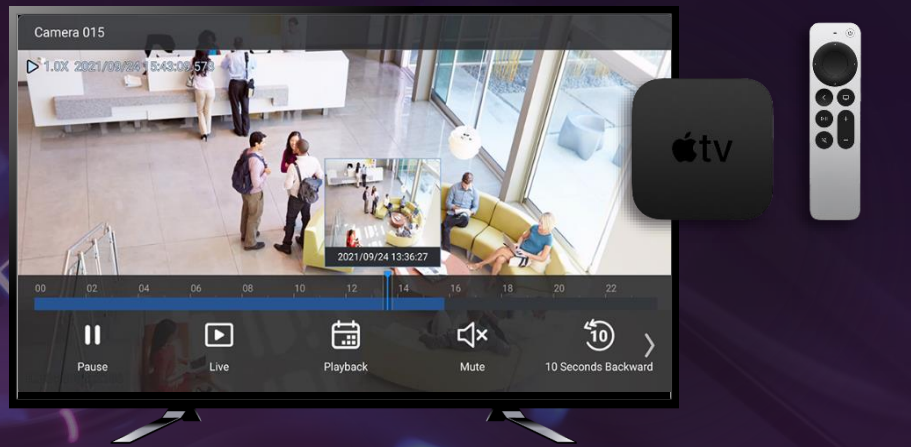
Mobile device recording and playback protect important people, things, and objects anytime, anywhere.



QVR Viewer

New Apple TV Monitoring App

The new Apple TV monitoring application is a convenient APP installed on Apple TV for monitoring and playback.



Support Video streaming and is suitable as a multimedia server

Various multimedia files can be easily centrally stored, such as photos, music, and video. Enjoy your NAS collections on your phone, tablet, or TV.

- Use Cinema28 to stream multimedia to various AV playback devices
- Stream/Transform Multimedia to Various AV Devices with Plex
- Play via Qmedia on Apple TV/Fire TV/Roku/Android TV
- QuMagie smart album, automatic face recognition, and object classification

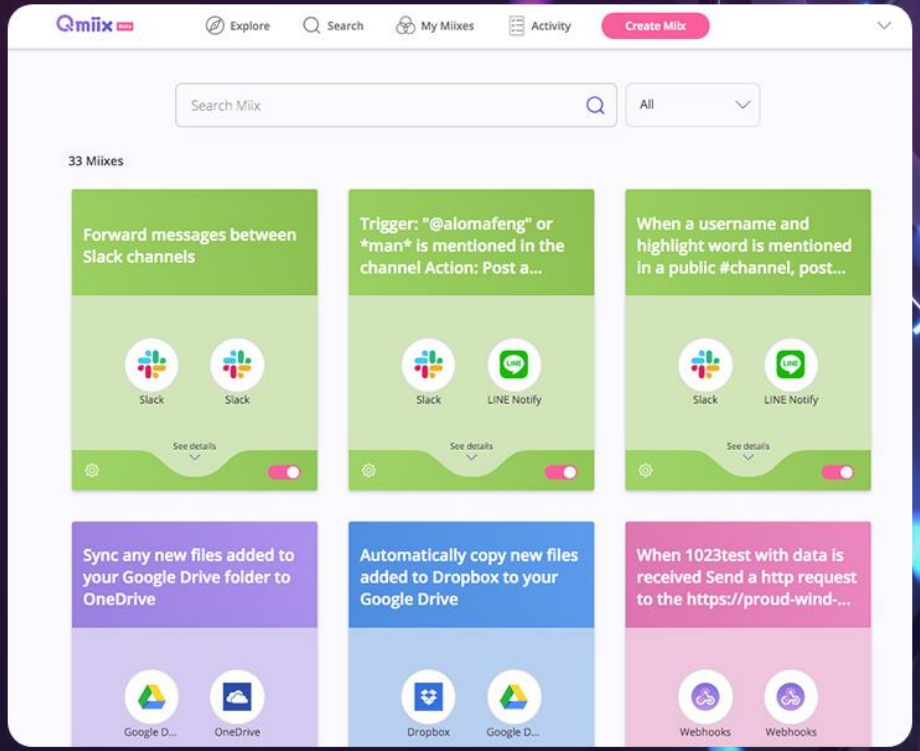
Customize and automate workflows

across multiple clouds, NAS, and applications to help save time and cost

Qmiix

Cross-Platform
Workflow Automation
Solutions

Qmiix can connect and automate workflows between QNAP NAS, cloud services, social networking, and communication software, simplifying routine tasks such as backup, document posting, and event notification. In addition, Qmiix provides efficient communication channels and a flexible multi-cloud backup environment to enhance the productivity of SMEs and collaborative teams.

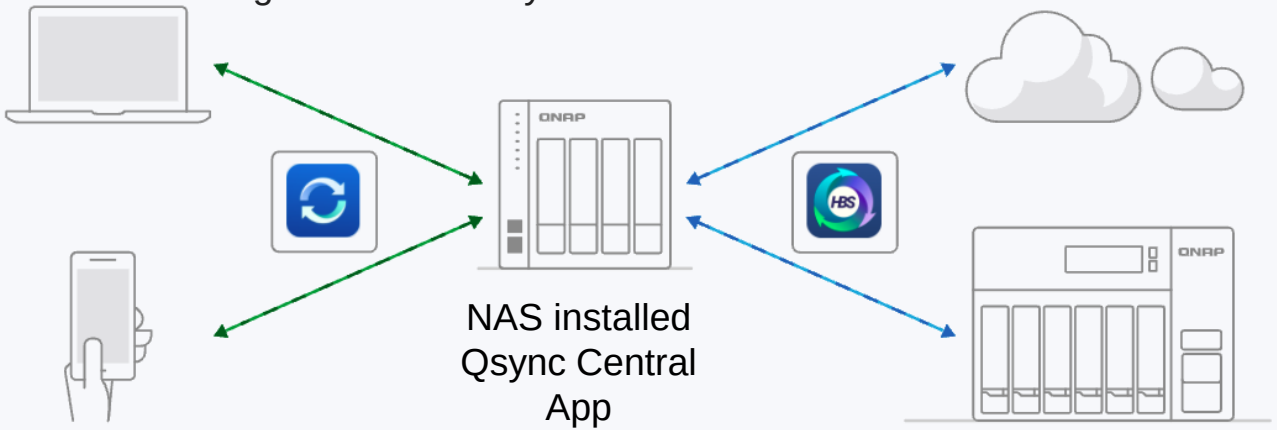


Qsync cross-device file synchronization technology for individual and team collaboration

Qsync allows you to conveniently synchronize real-time files between your QNAP NAS and bound devices, suitable for desktops, laptops, and mobile devices. As a result, you can access the newest data on all your devices and easily share it with your work team or family members.

- Central control mode and user-defined mode flexible configuration
- Up to 64 version-controlled, restore data at any time
- Remote erase to delete synced files from lost devices

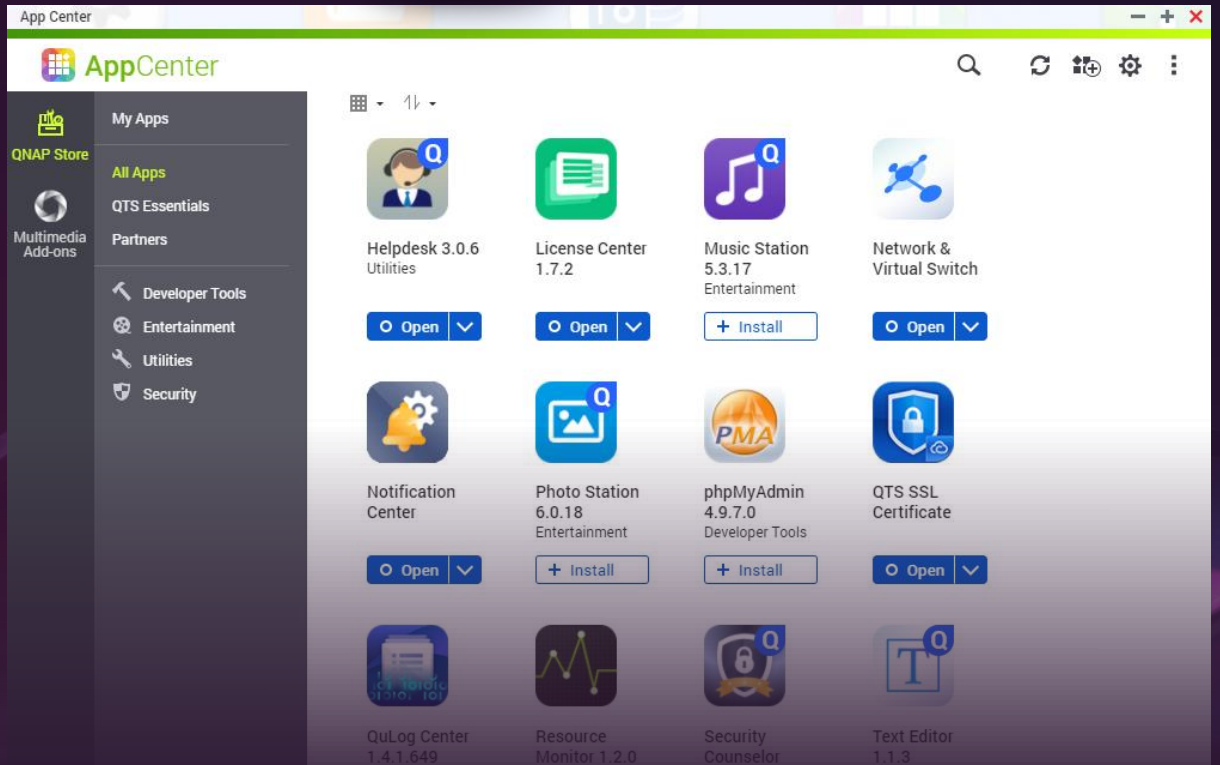
- Centralized management of binding devices to improve security and management efficiency
- Sync files to other NAS or cloud with Hybrid Backup Sync



NAS installed Qsync Central App

App Center

Wide variety of applications



NAS functions beyond imagination

QNAP APP Center includes various applications. You can install and expand multiple functions of the NAS on-demand. QNAP keeps developing products and seeks cooperation with related application software. We evolve every second, care about users' needs, and continuously try various forward-looking ideas. It is the only constant persistence of QNAP in the rapidly changing AI era.

https://www.qnap.com/zh-tw/app_center/

Who is suitable for the NAS?

TS-433

Good value 2.5GbE 4-bay NAS

Home user

The minimalist NAS design is suitable for installation at home to store precious photos and videos. The built-in NPU AI acceleration makes image recognition even more powerful

Small business

4-bay SATA disk and high-speed 2.5GbE network support, allowing small business users to properly configure data backup in the office

NAS usage scenarios

Photo storage AI management

NPU acceleration can effectively improve QuMagie smart album management performance

Storage of self-media data

Any audio and video data can be stored in the NAS through FileStation

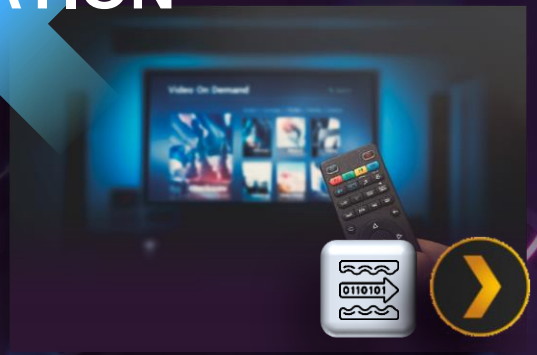
INTEGRATION

Smart monitoring

4GB of RAM makes QVR Elite support for subscriptions up to 18 cameras run smoother

Multimedia streaming playback

Supports viewing of stored rich multimedia files by subscribing to Plex



QNAP

TS-433

The most economical 4-bay NAS
It's time to upgrade to the 2.5GbE high-speed network

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